

Sindh Institute of Management & Technology
Faculty of Engineering Technology & Information Technology

DIGITAL LOGIC DESIGN CSC-212

Experiment No. 09

Name of Student: _____

Roll No.: _____ Department: _____

Date of Experiment : _____

Report Submitted on : _____

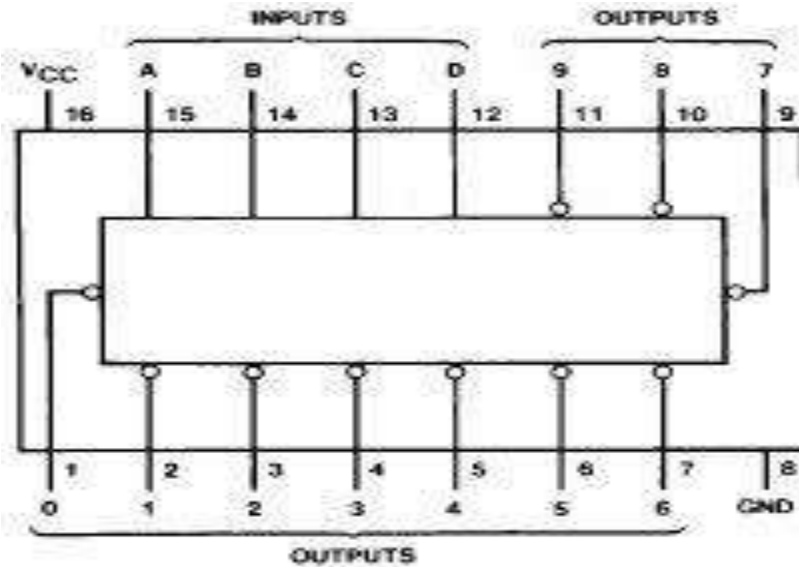
Marks Obtained : _____

Remarks if any : _____

Signature : _____

OBJECTIVE: To study the operation of BCD to Decimal decoding.

THEORY: BCD to Decimal decoding operation converts BCD coded numbers into familiar Decimal numbers. You will be using BCD to Decimal decoder IC (7442) which takes input binary data in BCD form and decodes it into one of the ten decimal outputs. Following is its connection diagram.

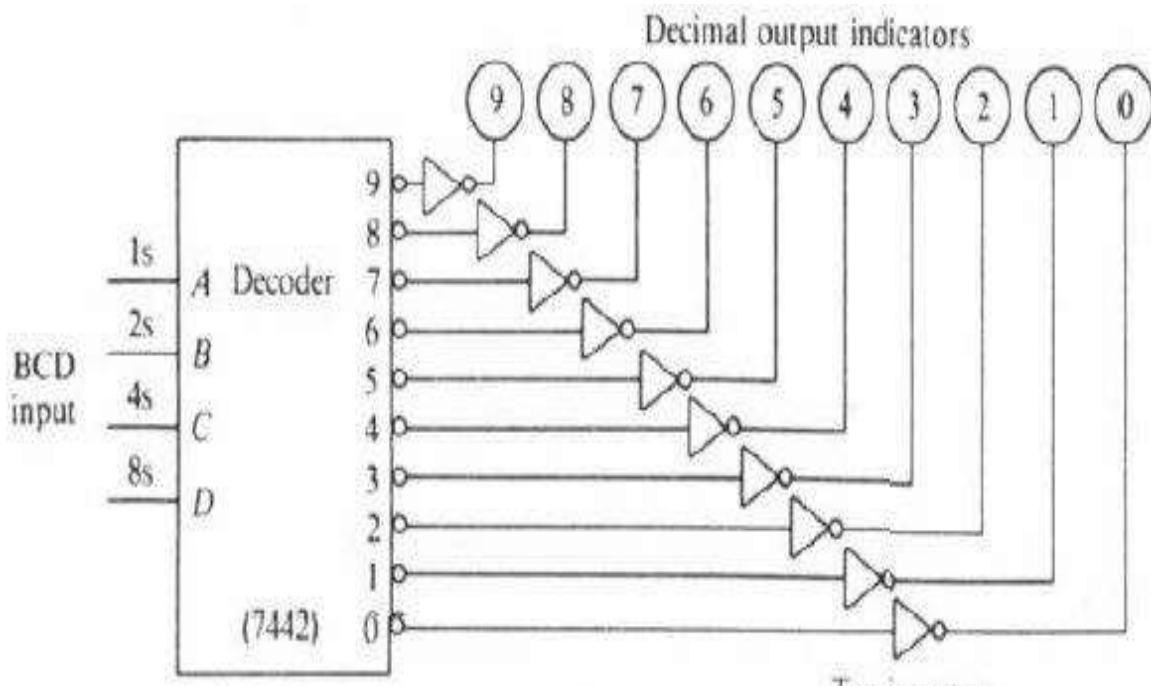


LAB EQUIPMENT:

DC Power Supply +5V, IC 7442 (BCD to Decimal decoding), IC 7404, Logic Probe or LED or Multimeter, Wire stripper, connecting wires.

PROCEDURE:

Connect the circuit shown below on Breadboard.



Give the sixteen possible binary inputs from 0000 to 1111 and observe the status of the ten outputs 0 to 9 using Logic Probe or LEDs. Record your observations in the table below.

Observation Table:

Digit	Binary Input				$\overline{O_0}$	$\overline{O_1}$	$\overline{O_2}$	$\overline{O_3}$	$\overline{O_4}$	$\overline{O_5}$	$\overline{O_6}$	$\overline{O_7}$	$\overline{O_8}$	$\overline{O_9}$
	D	C	B	A										
0	0	0	0	0										
1	0	0	0	1										
2	0	0	1	0										
3	0	0	1	1										
4	0	1	0	0										
5	0	1	0	1										
6	0	1	1	0										
7	0	1	1	1										
8	1	0	0	0										
9	1	0	0	1										
Invalid BCD	1	0	1	0										
Invalid BCD	1	0	1	1										
Invalid BCD	1	1	0	0										
Invalid BCD	1	1	0	1										
Invalid BCD	1	1	1	0										
Invalid BCD	1	1	1	1										

Write your comments about observations you have made.